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Replacing GB/T 11064.11-1989

Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride - Part 11: Determination of acid-insolubles content - Gravimetric method

碳酸锂、单水氢氧化锂、氯化锂 化学分析方法

第 11 部分：酸不溶物量的测定 重量法

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Foreword

GB/T 11064 "Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride" is divided into 16 parts:

- Part 1: Determination of lithium carbonate content - Acid-alkali titrimetric method;
- Part 2: Determination of lithium hydroxide content - Acid-alkali titrimetric method;
- Part 3: Determination of lithium chloride content - Potentiometric method;
- Part 4: Determination of potassium and sodium content - Flame atomic absorption spectrometric method;
- Part 5: Determination of calcium content - Flame atomic absorption spectrometric method;
- Part 6: Determination of magnesium content - Flame atomic absorption spectrometric method;
- Part 7: Determination of iron content - 1,10-phenanthroline spectrophotometric method;
- Part 8: Determination of silicon content - Molybdenum blue spectrophotometric method;
- Part 9: Determination of sulfate content - Barium sulfate nephelometry method;
- Part 10: Determination of chloride content - Silver chloride nephelometry method;
- Part 11: Determination of Acid-insolubles Content - Gravimetric method;
- Part 12: Determination of carbonate content - Determination of lithium chloride content - Potentiometric method;
- Part 13: Determination of aluminum content - Chromazurol S-cetylpyridine bromide spectrophotometric method;
- Part 14: Determination of arsenic content - Molybdenum blue spectrophotometric method;
- Part 15: Determination of fluoride content - Ion selective method;
- Part 16: Determination of calcium, magnesium, copper, lead, zinc, nickel, manganese, cadmium and aluminum content - Inductively coupled plasma atomic emission spectrometry.

This Part is part 11 of GB/T 11064.

This Part is drafted in accordance with rules given in GB/T 1.1-2009.

This Part replaces GB/T 11064.11-1989 "Lithium carbonate, lithium hydroxide monohydrate and lithium chloride - Determination of acid-insolubles - Gravimetric method".

Compared with GB/T 11064.11-1989, the main changes of this Part are as follows:

- ADD the repeatability terms;
- RE-EDIT the text format; ADD the test report.

This Part shall be under the jurisdiction of National Standardization Technical Committee of Nonferrous Metals (SAC/TC 243).

Drafting organizations of this Part: Xinjiang Wuxin Lithium Salt Development Co., Ltd., Xinjiang Research Institute of Non ferrous Metals, and Beijing General Research Institute of Mining & Metallurgy.

The main drafters of this Part: Lv Minghui, Xia Shufen, Guan Yuzhen, Feng Xianjin, and Zhu Xiangyu.

The historical version replaced by this Part is as follows:

- GB/T 11064.11-1989.

Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride - Part 11: Determination of acid-insolubles content-Gravimetric method

1 Scope

This Part of GB/T 11064 specifies the determination method of acid-insolubles content in lithium carbonate, in lithium hydroxide monohydrate, and in lithium chloride.

This Part applies to the determination of acid-insolubles content in lithium carbonate, in lithium hydroxide monohydrate, and in lithium chloride. The determination range: 0.0050%~0.020%.

2 Method Summary

The sample is dissolved with hydrochloric acid. Heat it to boiling; filter it with a sand-core glass crucible. Then dry it at 105°C~110°C to constant-mass.

3 Reagents

Unless otherwise indicated, the reagent used in this Part is an analytical pure reagent, and the water used in this Part is the distilled or deionized water.

3.1 Hydrochloric acid ($\rho=1.19\text{g/mL}$).

3.2 Methyl orange indicator (1g/L): weigh 0.1g of methyl orange; dissolve it in the 70°C water. Cool it down; dilute it to 100mL.

4 Instrument

4.1 Oven.

4.2 Sand-core glass crucible: filter plate aperture: 5 μm ~15 μm .

5 Samples

5.1 The samples of lithium carbonate and lithium chloride shall be preheated at 250°C~260°C for 2h; then cool down to room temperature in a desiccator.

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